

Application No. 10/063,494
Docket No. 13DV-13485
Amendment dated March 5, 2004
Reply to Office Action of December 5, 2003

REMARKS

In the Office Action, the Examiner reviewed claims 1-20 of the above-identified US Patent Application, with the result that claims 1-4, 8-15, 19 and 20 were rejected under either 35 USC §102 or §103, and claims 5-8 and 16-18 (which depend from claims 1 and 14, respectively) were deemed to recite allowable subject matter. In response, Applicants have amended the specification and claims as set forth above.

More particularly:

The title of the invention has been amended at page 1 of the specification to correct a typographical error.

The specification has been amended at paragraphs [0005] and [0016] to update the status of commonly-assigned U.S. Patent Application Serial No. 09/621,422 to Rigney et al., which issued as U.S. Patent No. 6,447,854 after the filing of the present application.

The specification has been amended at paragraph [0006] to correct a typographical error.

Independent claims 1 and 14 have been amended to recite that the coating chamber (14) contains a gas-containing atmosphere, the temperature of the gas-containing atmosphere increases between performing a first coating operation and performing a second or last coating operation, and the combined heat transfer to the

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articles/components (20) from sources other than the gas-containing atmosphere occurs at a lower rate during the second/last coating operation than during the first coating operation. In claim 14, such "sources other than the gas-containing atmosphere" are specified as "radiant sources." Support for these amendments can be found in Applicants' specification at paragraph [0016] where the interior of the chamber 14 is described as being filled with gases, and paragraph [0010] where the heat transfer rate to the articles/components (20) during second/subsequent coating operations is said to be lower than the heat transfer rate to the articles/components (20) during the first coating operation, "even though the temperature within the coating chamber . . . continuously rises during successive coating operations." "Sources other than the gas-containing atmosphere" within the coating chamber (14) are disclosed in the specification as including such radiant sources as heating elements 40 (see paragraph [0020] and claims 7 and 18), reflectors 42 (see paragraph [0021] and claims 8, 9, 19 and 20), and effects of the electron beam gun 30 (see paragraph [0022] and claims 5, 6, 16, and 17).

Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of claims 1-20 are respectfully requested in view of the above amendments and the following remarks.

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Rejections under 35 USC §103

Independent claims 1 and 14 and their dependent claims 2-4, 8-15, 19 and 20 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,319,569 to Callaway et al. (Callaway) alone, or in further view of U.S. Patent No. 4,182,448 to Aichert et al. (Aichert), or in further view of Aichert and EP 969117 to Rigney et al. (Rigney). Applicants respectfully traverse these rejections in view of the claims as amended and the following comments.

Under the first §103 rejection based on Callaway alone, the Examiner rejected claims 1, 8-11 and 13 on the basis that Callaway discloses a method by which the substrate temperature of components being coated by EBPVD is maintained within a desired range with a heat-reflecting cover. Under the second and third §103 rejections, the Examiner cited Aichert as disclosing the preheating of components before undergoing coating by EBPVD, and cited Rigney as disclosing a preheat temperature of about 1100°C and a coating composition of 4-8%YSZ.

Callaway discloses a EBPVD coating chamber 10 formed by four side walls 10a, a bottom wall 10b, and a top wall 10c (column 2, lines 53-55). The top wall 10c is disclosed as defining a heat vent opening 10d closed off by a "heat release cover" 20 (column 3, lines 3-6). Callaway discloses that the heat release cover 20 is operated to cool the interior of the coating chamber 10 by allowing heat to be released through the

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vent opening 10d, thereby "releasing the excess heat" to lower the temperature of the gas-containing atmosphere within the chamber 10. Once the desired temperature is again attained, the heat release cover 20 is moved back to at least partially close the vent opening 10d, and may even completely reclose the vent opening 10d. (Column 4, lines 17-31.)

In view of the above, while Callaway's method involves controlling the temperature of components being coated, Callaway does so by reducing the temperature within the coating chamber 10. In contrast, Applicants' method reduces heating of components by sources other than the gas-containing atmosphere while allowing the temperature within the coating chamber 10 to continuously increase. Therefore, Applicants believe that Callaway neither discloses nor suggests the method recited in independent claims 1 and 14.

Because Aichert and Rigney also do not disclose or suggest this aspect of Applicants' claimed invention, Applicant believes that each of the rejections under 35 USC §103 are overcome, and respectfully request their withdrawal.

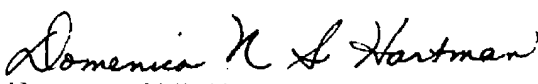
Closing

In view of the above, Applicants believe that the rejections to their claims have been overcome, and therefore respectfully request that this patent application be given favorable reconsideration.

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Should the Examiner have any questions with respect to any matter now of record, Applicants' representative may be reached at (219) 462-4999.

Respectfully submitted,

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